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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,234

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John M. Gascoyne

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EXAMINER

HODGE, ROBERT W

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

11/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/781,234	Applicant(s) GASCOYNE ET AL.	
	Examiner ROBERT HODGE	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16,25,29,31,33,36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16,25,29,31,33,36 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 9/11/08 have been fully considered but they are not persuasive. Applicants continue to argue limitations that are not in the claims such as a "sacrificial carbon". Applicants also argue that the carbon materials of Cabasso are not mixed, but it is clear in Column 6, Lines 36-58; Column 7, Lines 21-44 that the carbon materials are mixed. Applicants state none of the carbon materials of Cabasso support the electrocatalytic material. The whole purpose of a gas diffusion layer is to be used against the electrode surface which is the electrocatalytic material and since both carbons are present in the gas diffusion layer the electrocatalytic material is supported by both carbon materials of the gas diffusion layer. Furthermore Cabasso uses the same materials with the same BET surface areas as the instant invention and therefore the materials of Cabasso are more than adequate to support an electrocatalytic material. Applicants direct the Examiner to one embodiment of Cabasso with the coating layer but ignore the already provided above disclosure where mixtures are discussed in Cabasso. Therefore the previous rejections will be maintained.

Claim Rejections - 35 USC § 102/103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 16, 25, 29, 31, 33, 36 and 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 5,783,325 hereinafter Cabasso.

With respect to claims 16, 25, 29, 31 and 33, Cabasso et al. teach a fuel cell anode structure comprising a substrate that is a gas diffusion layer (Column 6, Lines 34-35) and a carbon-based component comprising carbon blacks selected from the groups consisting of BLACK PEARLS 2000, Vulcan VX-72, KETJEN BLACK EC 300J, activated charcoal, Acetylene Black C-100, or mixtures thereof. See Column 6, Lines 36-58; Column 7, Lines 21-44. The BLACK PEARLS 2000 carbon material has a surface area of 1536 m²/g as disclosed in the instant specification. See Page 31. The Vulcan VX-72 carbon material has a surface area of 200 m²/g. See Example 1. The KETJEN BLACK EC 300J carbon material has a surface area of 950 m²/g. See Column 7, Lines 36-40. The activated charcoal typically has a surface area between 1000-1270 m²/g as evidenced by Yamaura et al. (U.S. 6,824,908) and Hirashige (U.S. 2005/0214631 A1). The Acetylene Black C-100 carbon material has a surface area of 60 m²/g. See Example 4. It is the position of the examiner that the probability of having a first carbon material having a BET surface area of at least 350 m²/g, such as BLACK PEARLS 2000, KETJEN BLACK EC 300J or activated Charcoal, and a second carbon material, such as Vulcan VX-72 or Acetylene Black C-100 based on the teaching of Cabasso et al. does not constitute as "picking and choosing" because the groups for the mixture of two carbon materials are relatively small. Cabasso et al. further teach a

catalyst layer ink solution is painted onto the gas diffusion electrode. See Column 10, Lines 9-24

Furthermore, Cabasso et al. do not specifically disclose the relative corrosion resistance during cell reversal at fuel cell operating temperatures. However, it is the position of the examiner that such properties are inherent, given that both Cabasso et al. and the present application utilize the same carbon compounds. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999).

Regarding claims 36 and 37 Cabasso teaches a third carbon material in addition to the **mixture** of carbon black materials as discussed above that is present within the gas diffusion layer which can be a carbon conductive substrate that is a fibrous or porous sheet such as carbon paper, high conducting carbon cloth, high conducting carbon felt, carbon tape and other suitable carbon substrate materials (column 6, lines 33-64).

The examiner notes that claims 16, 25, 36 and 37 are product-by-process claims. "Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps". See MPEP § 2113. Therefore because all of the structure recited in claims 16, 25, 36 and 37 is present in the Cabasso reference, claims 16, 25, 36 and 37 are included in the above 102(b)/103(a) rejection. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical

comparisons therewith.” In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

In the alternative it would have been obvious to one having ordinary skill in the art at the time the invention was made to mix the two carbon components of Cabasso as already suggested by Cabasso, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. Howard v. Detroit Stove Works, 150 U.S. 164 (1893). It further would have been obvious to one having ordinary skill in the art at the time the invention was made that the carbon materials of Cabasso will inherently have the same properties as the instantly claimed invention. In re Robertson, 49 USPQ2d 1949 (1999).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HODGE whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. H./
Examiner, Art Unit 1795

/Jonathan Crepeau/
Primary Examiner, Art Unit 1795